



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/712,012

11/14/2003

Yoichi Sato

03560.003393.

7802

5514 7590 12/22/2008  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

DURNFORD GESZVAIN, DILLON

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

12/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/712,012	<b>Applicant(s)</b> SATO, YOICHI	
	<b>Examiner</b> Dillon Durnford-Geszvain	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. Claims **11-13** are pending, and claim **11** is amended.

***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/24/2008 has been entered.

***Response to Arguments***

3. Applicant's arguments with respect to claim **11** have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. **Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0008766 (Tariki) in view of US 2002/0085112 (Hiramatsu).**

6. As to claim **11**, Tariki teaches an imaging apparatus comprising:

a photoelectric conversion area 5 (see Fig. 1) including a plurality of photoelectric converters (inherent in a CCD);

a controller 18 configured to control a first mode (from  $t_1$ ) for continuously reading out, from the photoelectric conversion area 5, a plurality of image data (see Fig. 4, where IMAGE SIGNAL is the image data) acquired by a plurality of image-taking operations performed at a plurality of accumulation times (see Fig. 4 and note that the accumulation times happen to be the same), respectively, and a second mode (from  $t_0$  to  $t_1$ ) for continuously reading out, from the photoelectric conversion area, a plurality of correction data (DARK CURRENT NOISE COMPONENT), having the same duration as the plurality of charge accumulation times (see Fig. 4 and note that although only a single dark frame is shown, if SW1 is held down for longer, more dark frames are captured, see Fig. 3 and [0110] lines 6-14), respectively, in a state where the photoelectric conversion area is shielded by a shutter (see [0106]); and

an image processor 14 for correcting the plurality of image data by using the plurality of correction data ([0064]).

What Tariki does not teach is that the apparatus operates in the second mode after the first mode. However, Hiramatsu teaches an imager that captures image data in a first mode (step S3 in Fig. 8, [0072]) for reading out image data, and a second mode correction data (step S5 in Fig. 8, [0074]), after the first mode (see Fig. 9).

Therefore, because it was known in the prior art to use first and second modes as described in Tariki and it was known to put a second mode for capturing correction

Art Unit: 2622

data after a first mode for capturing image data, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have picked up the image data first in Tariki as is done in Hiramatsu as this would yield the predictable result of being able to match the accumulation time of the correction data exactly as it will be known exactly from the image accumulation mode.

7. As to claim **13**, see the rejection of claim **11** and note that Tariki further teaches an imaging apparatus according to claim **11**, wherein the second mode acquires, in the same order as used to acquire the plurality of image data in the first mode, the plurality of correction data at different times than the plurality of charge accumulation times (note that since there is only one duration for the image data, and the dark data duration is the same it is captured in the same order, also see Fig. 4), and

wherein in a case where a plurality of image data are acquired at a plurality of charge accumulation times having a same duration in the first mode (as is the case in Tariki, see Fig. 4), the controller acquires correction data to be used to correct the plurality of image data acquired at the plurality of charge accumulating times having the same duration during a plurality of charge accumulating times having the same duration in the second mode (see Fig. 4 and note that although only a single dark frame is shown, if SW1 is held down for longer, more dark frames are captured, see Fig. 3 and [0110] lines 6-14).

Art Unit: 2622

8. **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0008766 (Tariki) in view of US 2002/0085112 (Hiramatsu) further in view of US 6,101,287 (Corum).**

As to claim **12**, Tariki does not teach that the photoelectric conversion area includes an optical black area covered with a shield, and the image processor corrects the image data on the basis of optical black data every time the plurality of image data is acquired in the first mode, and then corrects the image data corrected with the optical black pixels with the correction data.

However, Corum teaches an imager with an optical black area (shown shaded in Fig. 3) and that the data from the optical black area is used in conjunction with dark frame data to correct an image (Column 3 lines 11-18).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an optical black area as taught by Corum to correct the image data as acquired by Tariki as this would result in even better image quality than subtracting a dark frame alone would.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571)272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

Art Unit: 2622

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain

12/18/2008

/David L. Ometz/  
Supervisory Patent Examiner, Art Unit 2622